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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,515	02/04/2004	Yevgeny Kocherovsky	033679-502	1763

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EXAMINER

ADDISU, SARA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/770,515	Applicant(s) KOCHEROVSKY, YEVGENY	
	Examiner Sara Addisu	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/4/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Regarding claim 10, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. On page 5, Paragraph 25 of the Specification, Applicant points out steel rear portion, carbide front portion and aluminum intermediate portion (as pointed out in Claim 6 of the instant application). Further review of the specification indicates that there is no mention of carbide rear portion and steel front portion.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts et al. (U.S. Patent No. 6,109,620).

Roberts et al. teaches a tool holder having a plurality of portions: front portion (16) constituting a cutter head portion (since a drill string components gets screwed on it) and a rear portions/tail (12) constituting a mounting portion (see figures 1, 4a,b and 5a,b). Roberts et al. also teaches the portions being formed of different materials and are arranged in end-to-end relationship interconnected by friction welding (Col. 1, lines 23-32). Furthermore, Roberts et al. teaches in Figures 4a,b and 5a,b both front and rear portions being made of a length of bar (finished) and the front portion is machined to form the threading portion (unfinished).

Claims 1, 4, 5, 9, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagaya et al. (U.S. Pub. No. 2001/0031177).

Nagaya et al. teaches a tool holder having a plurality of portions: an edge section (10) (provided with cutting edge, unfinished), a connecting member (12) and a shank section (11) (see Figures 1-3). Nagaya et al. teaches connecting member (12) having a higher coefficient of thermal expansion than the edge

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section (10) and shank section (11) therefore it is made of a different material (Page 4, paragraph 57). Nagaya et al. also teaches selecting materials of the edge section (10) and shank section (11) in free combination as long as the materials have a lower coefficient of thermal expansion than connecting member (12) (Page 4, paragraph 58), therefore the three component can be made of different materials.

Claims 15 and 17- 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Gulbrandsen (U.S. Patent No. 4,383,784).

Gulbrandsen teaches the method and means of manufacturing a rotary cutting tool by providing a plurality of portions comprised of different material properties (a longer length (10) of cylindrical alloy of tool steel and a shorter length (12) of cylindrical cobalt), placing the plurality of portions in end-to-end relationship along a center axis (see Figures 1 & 2), butt welding portions (10 & 12) together to form a unitary assembly and finally heat treating the unitary assembly (at 2200 degree F) for the purpose of hardening followed by quenching at a temperature of about 1000 degree F (Col. 1, lines 47-55 and Col. 2, lines 8-11). Gulbrandsen also teaches longer length (rear) portion (10) of being a mounting portion and shorter length (front) portion (10) of being a cutter head (see Figures 1 & 5). Front portion (12) is an unfinished blank that is machined and grounded into a desired shape (Col. 2, lines 4-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaya et al. (U.S. Pub. No. 2001/0031177) in view of Adamson (U.S. Patent No. 5,135,337).

Nagaya et al. teaches a tool holder having three portions as set forth in the above rejection. Furthermore, Nagaya et al. teaches edge (front) section (10) being made of carbide and shank (rear) section (11) being made of steel (Page 1, Paragraph 6, lines 5-6 and Paragraph 7, lines 6-7). Nagaya et al. teaches the connecting member (12) having a higher coefficient of thermal expansion than the edge section (10) and shank section (11) (Page 4, paragraph 57). Regarding claim 8, Examiner has taken Official Notice that it is well known in the art that most industry sectors for applications requiring high tensile/yield strength use 4340. Steel H13 is also a typical tool steel.

However Nagaya et al. fails to teaches the intermediate connecting member (12) being made of aluminum.

Adamson teaches a cutter body made of aluminum.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nagaya et al.'s invention, such that connecting member (12) is made of aluminum as taught by Adamson for the purpose of substantially reducing the overall weight of the cutter and reducing the vibration thus improving the cut work piece surface ('337, Col. 1, lines 27-29 and 36-49). Additionally, aluminum has a higher coefficient of thermal expansion than steel and carbide therefore it meets the choice of material requirements set out by Nagaya et al. (mentioned above).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gulbrandsen (U.S. Patent No. 4,383,784), in view of Nagaya et al. (U.S. Pub. No. 2001/0031177).

Gulbrandsen teaches method of producing a tool holder as set forth in the above rejection.

However, Gulbrandsen fails to teach more than two portions.

Nagaya et al. teaches three portions edge section (10), connecting member (12) and a shank section (11) as set forth in the above rejection. Nagaya et al. also teaches the connecting member (12) being made of a material having a higher coefficient of thermal expansion than sections (10) & (11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Gulbrandsen invention, such that there is connecting member (portion) with a higher coefficient of thermal expansion between the two sections as taught by Nagaya et al. for the purpose

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of having the ability to replace the mounting portion or the cutting portion independently (Page 1, paragraph 15).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaya et al. (U.S. Pub. No. 2001/0031177), in view of New (U.S. Patent No. 4,061,438).

Nagaya et al. teaches a three portion tool holder as set forth in the above rejections.

However, Nagaya et al. fails to teach the intermediate portion having an anti-vibration material disposed within it.

New teaches shank (1), cutting portion (21) and an intermediate damper assembly (6) having a damper mass (10) within it (see Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nagaya et al. invention, such that the connecting member (12) will have within it an anti-vibration material as taught by New for the purpose of having an increased overhang ratio while having the same resistance to vibration and chatter (Col. 1, lines 59-62).

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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